National Institute of Environmental Health Sciences

Environmental and occupational allergies

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Abstract:

Airborne allergens are the major cause of allergic rhinitis and asthma. Daily exposure comes from indoor sources, chiefly at home but occasionally at schools or offices. Seasonal exposure to outdoor allergens, pollens, and molds is another important source. Exposure to unusual substances at work causes occupational asthma, accounting for about 5% of asthma in adults. Indoor and outdoor air pollutants trigger airway inflammation and increase the severity of asthma. Diesel exhaust particles increase the production of IgE antibodies. Identification and reduction of exposure to allergens is a very important part of the management of respiratory allergic diseases. The first section of this chapter discusses domestic allergens, arthropods (mites and cockroaches), molds, and mammals (pets and mice). Indoor humidity and water damage are important factors in the production of mite and mold allergens, and discarded human food items are important sources of proliferation of cockroaches and mice. Means of identifying and reducing exposure are presented. The second section discusses outdoor allergens: pollens and molds. The particular plants or molds and the amount of exposure to these allergens is determined by the local climate, and local pollen and mold counts are available to determine the time and amount of exposure. Climate change is already having an important effect on the distribution and amount of outdoor allergens. The third section discusses indoor and outdoor air pollution and methods that individuals can take to reduce indoor pollution in addition to eliminating cigarette smoking. The fourth section discusses the diagnosis and management of occupational asthma.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Precipitation

Air Pollution: Allergens, Interaction with Temperature, Ozone, Particulate Matter, Other Air Pollution

Air Pollution (other): NO2, SO2

Geographic Feature:

resource focuses on specific type of geography

Rural, Urban

Geographic Location: ☑

resource focuses on specific location

United States

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Respiratory Effect

Respiratory Effect: Asthma, Upper Respiratory Allergy

Resource Type: ☑

format or standard characteristic of resource

Review

Timescale: ☑

time period studied

Time Scale Unspecified